TRANSACTIONS

OF THE

CHICAGO SURGICAL SOCIETY.

Stated Meeting, June 1, 1903.

The President, JOHN B. MURPHY, M.D., in the Chair.

THE TREATMENT OF THE COMPLICATIONS ATTENDANT UPON CHRONIC GALL-STONE DISEASE.

DR. JOHN B. DEAVER, of Philadelphia, read a paper with the above title.

DR. WILLIAM J. MAYO, of Rochester, Minnesota, said there were two important questions in connection with surgery of the gall-bladder and biliary passages which were as yet unsettled. First, in what cases shall the gall-bladder be removed? Second, in what cases is it wise to drain the bile to the surface? Should the gall-bladder be removed in the early uncomplicated cases of gall-stone disease, or was it sufficient to drain it for a time until the biliary discharge was sterile? Without going extensively into the physiology of the gall-bladder, there was no doubt but that Murphy was right in believing that one of its functions was to act as a tension bulb, keeping the flow of bile steady instead of intermittent. This was unimportant of itself; but when the gall-bladder was suddenly cut off by a stone impacted in the cystic duct, there were not only symptoms arising from the retention in the cystic cavity, but there was usually some irritation of the liver from the increased tension, and mild infection, as shown in many cases by transient slight jaundice, etc. The liver soon accommodated itself to this change, and when the acute symptoms of obstruction were over, such a gall-bladder could be tied off without liver drainage; but if the cystic duct was not obstructed, and the gall-bladder still persisted in the biliary circulation, in

spite of the stones, the sudden ligation of the cystic duct, without provision for the escape of bile, was liable to increase liver tension and coincidentally the infection of the liver duct, and added this condition to the usual risks of operation. It was altogether probable that in the majority of cases this would do no harm, yet in the exceptional ones, cessation of liver function and death might follow. As stones do not reform after complete removal and drainage, it would seem to the speaker that the excision of the otherwise healthy gall-bladder, on account of gall-stones, subjected the patient to some unnecessary risks unless some provision was made for hepatic drainage. The thick contracted gall-bladder, with obstruction at the cystic duct, had lost its function, and such a gall-bladder was the one in which there was liable to be trouble from mucous fistula, adhesions, cancer, etc. Fortunately, by reason of the obstruction, the liver had become accustomed to the change in the extension, and such a gall-bladder could be removed without biliary drainage. He had never seen harm follow the ligation of the cystic duct in such cases, and this existed in about one-third of the cases as they came to the operating table.

Stones in the common duct were the cause of cholangeitis, and drainage of bile to the surface was necessary either by a cholecystotomy, if the cystic duct was sufficiently patulous for the purpose, or by leaving the incision in the common duct open, the latter being the safer method.

To what extent was it necessary to provide bile drainage in cases in which there were no stones in the common duct? Cholecystostomy drained the hepatic duct by the escape of bile to the surface, and all of experience had seen a patient doing badly suddenly relieved by a discharge of bile in a previously dry wound. So true is this, that often, with a patient not doing well, the drains were loosened, hoping to establish bile drainage, and, if one succeeded, recovery usually followed.

He had tried to classify his cases with regard to the necessity of hepatic drainage, and the following was about the position he had temporarily assumed as a result of this study: (1) If the gall-bladder contained bile, and the organ was distensible, if the gall-bladder was removed, bile drainage was provided for by cutting the cystic duct across and leaving it open. If such a patient was very obese, or had degenerative lesions of other

organs, he preferred cholecystostomy. (2) If there were symptoms of cholangeitis, even of mild grade, he provided for bile drainage, and if the condition was acute, the drainage must be free. (3) If the gall-bladder contained cystic fluid, but no bile, and the patient had symptoms of cholangeitis, he removed the organ, and cut the cystic duct below the obstruction to permit of bile discharge. If necessary, the cystic duct was split down to the common duct. (4) In a few cases he had directly opened the common duct for the purpose of securing liver drainage; but it was very rare that this was necessary, unless there were or had been stones in the common duct, and it was dilated. The cystic duct ordinarily could be advantageously used for the purpose; although in a few instances he had found it necessary to cut it off flush with the common duct, leaving a lateral defect in its wall for drainage purposes. This brought up the question as to how much danger of peritonitis there was as a result of bile leakage into the peritoneal cavity. If there was free gauze drainage, with or without tubage, there was but little danger of peritoneal infection from the bile. He had never seen a case of death from this cause; but the drainage should be attached to the proper point by a catgut suture to prevent its floating away by the bile discharge or displacement by the action of the diaphragm upon the liver. If the common duct was greatly dilated, and after removal of the calculi there was considerable detritus, the end of a rubber drainage tube was inserted into the duct opening and secured by a catgut suture. If this condition did not exist, tubage of the common duct was unnecessary.

To sum up: Cholecystectomy was to be preferred if the patient was otherwise in good condition. If the cystic duct was obstructed and the gall-bladder contained only cystic fluid, ligation of the cystic duct, without provision for hepatic drainage, was safe. If there was any infection of the hepatic ducts, bile drainage was essential.

Dr. Frank Billings, speaking from the stand-point of the internist, said that, given a reasonable certainty of the presence of gall-stones in the gall-bladder or ducts, it called for their removal by means of the surgeon's knife. He would modify that statement, however, to this effect, that where there existed some disease of other organs of the body, as the kidneys or the heart, which would render the use of an anæsthetic immediately dan-

gerous to the health of the individual, it was questionable whether operation should be undertaken. If gall-stones were acute in their manifestations, his advice was to wait until the symptoms had diminished or subsided. If attended with jaundice, to wait a reasonable time to see if it did not diminish; and if it did not, to attempt to improve the coagulability of the blood by the use of calcium chloride. In recent years, by means of calcium chloride, the coagulability of the blood had been increased or improved to such an extent as to make a surgical operation much less dangerous than before it was given. He would go farther than Kehr, if he understood him correctly, and say that if there were symptoms of gall-stones in the common duct, and they had subsided, and if following that, within a reasonable length of time, there were farther symptoms or indications of gall-stones, he would urge operation. He understood from the paper read by Kehr at Washington that he would not operate on such cases. While the speaker made this statement from a medical point of view, of operating on gall-stone cases when the evidence was clear that they were present, surgeons should not forget that they owed a great deal of what they knew to-day to Pasteur and Koch. It was the work of Pasteur, Koch, Lister, and others that had enabled surgeons to open the abdomen in these cases and to treat them successfully.

Dr. Billings then recounted briefly the symptoms of cholelithiasis and pointed out some of their peculiarities.

He said the medical treatment of gall-stones was instituted long before surgeons thought of opening the abdomen for the relief of this condition. The Carlsbad treatment had been in vogue for years, and surgeons should not censure medical men too much for sending their patients to Carlsbad or resorting to medical treatment, when it was known that a celebrated surgeon who, two years after operating on his own father for gall-stone, was attacked himself, and, instead of undergoing an operation, went to Carlsbad for treatment.

Dr. Arthur Dean Bevan said that in a discussion as broad as the one on the subject of cholelithiasis, brief conclusions arrived at from a review of one's own experience were in order, and with such an idea in view he presented the following:

"1. Gall-stone disease is due to a mycotic invasion of the bile tracts. Gall-stone disease is exceedingly common. From

his dissecting-room experience, it occurs in 16 per cent. of cadavers.

"2. In the vast majority of cases of gall-stone disease, the patient does not suffer from the existence of the condition.

"3. A close parallel cannot be drawn between cholelithiasis and appendicitis, and the conclusions accepted in appendicitis, *i.e.*, that a diseased appendix should in practically all cases be operated on, cannot with equal force be applied to cholelithiasis: (*a*) Because the disease, in its first manifestations, does not carry with it nearly the amount of danger to the patient as does appendicitis. (*b*) Because of the enormous number of individuals who have gall-stones many have slight, single, or very infrequent manifestations of the disease, which are speedily recovered from, carry little danger, and a good prospect of permanent recovery.

"4. As a corollary to the above, the hygienic treatment, *i.e.*, exercise, diet, salines, is indicated in cholelithiasis, as a rule, in the first manifestations of the disease.

"5. Surgical treatment is indicated when the manifestations of the disease are repeated, and especially when they are frequent and severe. Surgical treatment is demanded in the presence of: (*a*) An infected gall-bladder; (*b*) with stone or obstruction of the cystic duct; (*c*) with stone or obstruction of common duct.

"6. With stones still confined to the gall-bladder, cholecystotomy with drainage is the operation of choice.

"7. With stone in the cystic duct, or obstruction of cystic duct, cholecystectomy is the operation of choice.

"8. With stone in the common duct, choledochotomy with drainage is the operation of choice.

"9. With stone in both cystic and common ducts, cholecystectomy and removal of stone from common duct, and drainage of common duct, is the operation of choice.

"10. With obstruction of common duct from chronic interstitial pancreatitis or carcinoma, drainage of the bile tracts through the gall-bladder is the operation of choice.

"11. In the cases of cholecystitis and cholangeitis simulating gall-stones, drainage of the gall-bladder should be carried out, and with this probability the use of salicylate of sodium, which is excreted through the bile, and has seemed to exert a definite local antiseptic effect.

"12. To expose the bile tracts, the incision introduced by the

speaker in 1898, as modified by Weir and Mayo Robson, gives the best access to the region, makes the operation in difficult cases much easier, saves valuable time, and is least likely to be followed by hernia.

"13. The mortality from gall-stone operations is surprisingly small in uncomplicated cases. The speaker had had no deaths in more than 100 cholecystotomies, and in more than twenty cholecystectomies had had but one death in fourteen cases of obstruction of the common duct.

"14. The prospects of permanent cure after operative removal of gall-stones are very good. The recurrences of symptoms are almost always due to incomplete operations, *i.e.*, leaving some stones or the doing of a cholecystotomy where a cholecystectomy should have been done.

"15. Personally, he had seen little evidence pointing to gall-stones as a factor in the production of carcinoma, and therefore inclined to the belief that carcinoma favors gall-stone formation, and is the cause and not the effect where these two conditions coexist.

"16. The modern surgical treatment of cholelithiasis is, with the exception of the surgical treatment of appendicitis, the most valuable addition that has been made to medicine during the last twenty years. Inasmuch as the general practitioner sees most of these cases in their early history, it rests with him whether or not this valuable knowledge will be made the most of and accomplish the greatest amount of good."